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ABSTRACT

The University of Phoenix has developed a comprehensive outcomes and impact assessment program to assess the effects of a university education on students, particularly adult students. The program is integrated with the existing process assessment systems. Process assessments, which the university refers to as the Academic Quality Management System, consist of a family of instruments and measures designed to monitor the student's day-to-day activities in the educational environment. Components include the student and faculty end-of-course surveys; student comment analysis system; grading practices analyses; registration survey; graduation survey; and comments to the chair. Information is most often used for formative purposes such as assessing quality and compliance, performing interim program diagnoses, and making small-scale resource allocation decisions. Outcomes assessments, referred to as the Adult Learning Outcomes Assessment project, consist of an interdependent family of measures to assess the extent to which the institution is accomplishing its fundamental mission and purposes. Components are the comprehensive cognitive assessment; affective impact assessment; alumni impact survey/interview; faculty impact survey; employer impact survey/interview; capstone research project assessment; and qualitative case studies. Information is most often used for summative purposes, including decisions about the efficacy of individual programs and delivery systems. Central to the success of the assessment program is the commitment of faculty and staff to using the information for the improvement of all aspects of the university's operation, especially what goes on in the classroom. (YLB)

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Comprehensive Assessment of Learning Outcomes and Processes for Working Adult Students

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The Growing Body of Adult Students

If projections of the National Center for Education Statistics are correct, adult students over age 25 will soon comprise the majority of the nation's consumers of higher education in the U.S. Far from being a temporary aberration, the growth of the over 25 student group has been accelerating for the past 20 years. The pace of this acceleration first became prominent in 1983 when the 25 to 34 year old student group grew by 77% over the previous decade. By 1985 over 40% of college enrolles were over 25. The estimate for 1990 is that over 48% of all U.S. college students will be over the age of 25.

Despite these statistics, only a tiny share of the RD&E dollar for higher education is directed toward this emerging majority. Of the $1.2 billion the U.S. Department of Education spends on RD&E in higher education, only $164 million, or 13.6%, is spent on research in higher education. Even this figure is generous. Jeffrey Gilmore, Director of the USOE Office of Higher Education R&D, indicates he is aware of only $10 million being spend on pure adult higher education research in the current fiscal year. Consider these casual observations as well. Adult education is seldom the topic of major journals in educational research. A recent sample, taken by this author, showed less than 10% of the Chronicle of Higher Education articles that focused on students, faculty, or teaching, did so in appreciation of the adult student as an identifiable subgroup. Public funding formulae for higher education do not carry appropriate mandates to assess the needs of the new majority, and to meet those needs in proportion with their representation in the population. Educators, administrators, and developers of curriculum and texts have shown little recognition that half of their textbooks are being used by adult students. Educational planning for the adult student at most colleges and universities has been limited to developing restricted offerings in evening classes in recognition of the fact that 80 percent of the over 25 year old group works and has significant personal and professional obligations beyond the school environment. Administrators and most staff do not work at night. Therefore, the adult programs at most campuses have an unsupported, skeletal appearance and feel. Tenured faculties are generally not required to teach in the evening, and since there are seldom incentives to do so, the adult education program has become the province of adjunct faculty, many of whom are professionals who work in the subjects they teach. Being taught by a working professional is fortuitous for adult students, who generally disdain being taught by someone with no practical experience. However, it does not address the general problem of inadequate university attention or resource allocation to meet the needs of the adult student.

The Mandate for Assessment

The history of the assessment movement is politically and socially complex. The assessment of learning outcomes has been an integral part of higher education in the United States since the founding of the first college in the 17th century. Until recently when the term 'assessment' became associated with institutional effectiveness (Ewell, 1987), colleges and universities defined assessment operationally by assigning the responsibility for the evaluation of student performance to the faculty. In addition, traditional higher education institutions rely heavily on nationally-normed achievement tests for admissions and placement purposes. Performance on these nationally-normed achievement tests is generally found to be positively associated with past and future academic achievement, but only modestly, and sometimes negatively, associated with achievement in the non-academic environment; i.e., professional and business endeavors.

Although virtually every college or university has extensive experience with the traditional practice of assessment through faculty evaluations and normed tests, relatively few have experience in the design and institutionalization of objective mechanisms for assessing student learning outcomes independent of faculty or normed evaluations (Ewell, 1987). Of the some 3,000 accredited institutions of higher education in the United States, less than one-third of one percent had institutional assessment programs in place in 1986. One-third of these assessment programs were isolated to particular subjects (Werner, 1987). By early 1990, however, over 80% of colleges and universities have some kind of assessment underway. These assessments range from the administration of a single test or graduate survey, to the coordination of a comprehensive assessment effort. Currently, 66% of the colleges and universities are developing their own assessment instruments. Two out of three institutions have obtained at least some results from their assessment research. Over 50% of the public institutions are working under a state mandate to conduce assessment.

State and regulatory perspectives. As outcomes assessment becomes an integral part of higher education, the states, accrediting agencies, the federal government, and higher education in general remain united in the belief that each institution bears the responsibility for defining, developing, and validating its own outcomes measures in light of its particular mission and purposes.

> "(Outcomes)..(a)ssessment should be designed by and tailored to the individual institution with the active involvement of faculty in both planning and implementation (State Higher Education Executive Officers, 1987)."
>
> "Governors should call upon colleges and universities to implement programs of undergraduate student assessment that are appropriate to the particular missions of those institutions (National Governor's Association, 1986)."
>
> "Most state (higher education) boards recognize that assessment is ultimately

> a campus responsibility. Only secondarily and with reluctance do state boards actively intervene in what they see as domains of appropriate responsibility or campus autonomy (Boyer, et al., 1987)."

Secretary Bennett (1986) suggested, "the institution must set its own goals, it must articulate a vision, it must delineate standards, and then it is quite all right to teach to those goals and standards. It simply does what it set out to do, and then checks to see how well it has succeeded."

Overview of One University's Assessment Program

Process assessment. You will see from Table 1 that assessment activities have been separated into measures of process and outcomes. Process assessments, which we refer to as the Academic Quality Management System (AQMS), consist of a family of instruments and measures designed to monitor the student's day-to-day activities in the educational environment. At the center of the AQMS are the end-of-course surveys and the student comment analysis system, a system that classifies and stores over 100,000 student comments per year in a computerized knowledge base. Information from process assessment is most often used for formative purposes such as assessing quality and compliance, performing interim program diagnoses, and making small scale resource allocation decisions.

Outcomes assessment. Outcomes assessments, which we refer to as the Adult Learning Outcomes Assessment (ALOA) project, consist of a closely interwoven family of measures designed to assess the extent to which the institution is accomplishing its fundamental mission and purposes. Unlike the AQMS, the ALOA has no central instruments. Each measure is designed to complement the whole to provide a multitrait, multimethod view of the University's institutional effectiveness. In theory, information from outcomes assessment is most often used for summative purposes, including decisions about the efficacy of individual programs and delivery systems.

Development of a Multitrait Multimethod Assessment System

From their inception, the University of Phoenix Academic Quality Management System (AQMS) and the Adult Learning Outcomes Assessment (ALOA) project were conceived as developmental in nature because of their inherent design, validation, and implementation complexities, and because of the fact that relatively little information is available on evaluation methods and practices for the assessment of adult student learning processes and outcomes. While the AQMS preceded the ALOA, they are viewed as two halves of a complete assessment program. Ongoing acknowledgement is given to the evolving nature and scope of the AQMS and ALOA projects. Even at these early stages, our experiences have demonstrated that much of what is proving essential to the successful development of the project was not fully predictable, but is a direct outgrowth of the developmental process.

Table 1

University of Phoenix On-ground Process and Outcomes Assessment

PROCESS ASSESSMENT **Academic Quality Management System (AQMS)**	**OUTCOMES ASSESSMENT** **Adult Learning Outcomes Assessment (ALOA)**
Student End-of-Course Survey	Comprehensive Cognitive Assessment
Faculty End-of-Course Survey	Affective Impact Assessment
Student Comment Analysis System	Alumni Impact Survey/Interview
Grading Practices Analyses	Faculty Impact Survey
Registration Survey	Employer Impact Survey/Interview
Graduation Survey	Capstone Research Project Assessment
Comments to the Chair	Qualitative Case Studies

Each discrete element of the University's ALOA and AQMS projects is based on the mission and educational processes in place at the University, and is in the process of being fully integrated into both administrative and academic operations. As the University engaged in the process of determining how to develop and effect a system for objectively measuring the activities and achievements of its students, it acknowledged the philosophy of assessment as a process which is based on the mission and purpose of the institution. In this context, the University's assessment research revealed that virtually all assessment related design and content has been focused on the educational activities of institutions designed primarily to meet the educational needs of the traditional 18-24 year old student. Both the design and the content of these assessment instruments and methods are, therefore, campus-focused, and calculated to assess the learning achieved by individuals participating in what is commonly referred to as passive learning, rather than active learning such as University of Phoenix programs designed for adults. Based upon the University's mission of both identifying and meeting the educational and professional development needs of working adult students; the University was faced with the choice of utilizing nationally-normed tests designed primarily for academic placement and admissions purposes; developing its own instruments to assess cognitive, affective, and other forms of educational growth, or adopting existing instruments, methods, and practices. Because of its strengths in centralized curriculum development, institutional research, and its unique mission to serve working adults, the University made a decisive commitment to undertake a major organizational and research developmental effort.

Table 2 describes each major element in the AQMS and ALOA projects including the nature of the instrument, the purpose for the activity, when the measures are taken, whether or not there are control or contrast groups involved in the design, what traits are measured, what methods are employed, the approximate number of measures taken per year, and the approximate administration time.

Process Assessment: Academic Quality Management System

Student End-of-Course Survey. Students in all UOP courses complete an end-of-course survey which focuses on student satisfaction with educational delivery, educational content, and administrative and environmental support. These measures are viewed primarily as short-term satisfaction issues and are of significant value in diagnosing immediate problems which may interfere with the learning environment. The empirically validated scales contain Likert-like scaled items. Currently over 75,000 student-end-of course surveys are completed yearly. This constitutes an 85-90% response rate. Information from the student end-of-course survey is analyzed daily and is reported to faculty, area chairs, and academic administrators.

Faculty End-of-Course Survey. The University's requirement that faculty be qualified practitioners of the subjects they teach provides a valuable resource for assessing whether curriculum is up-to-date and technically sound. Faculty are also our best resource for

Table 2

Description of Multitrait Multimethod Learning Process and Outcomes Assessment System

Instrument	Definition, Rationale, and Uses for Measure	Applied	Ctrl.	Traits Measured	Methods	N	Time
Affective Inventory	99% of UOP students are employed. Measures focus on affective issues found associated with workplace success; e.g. team orientation, cooperation, communications.	Registration Graduation	Yes	Values, attitudes, self-rating of professional behavior	Scaled, ranked, & open-ended survey items; empirically validated scales	5,000/Year	1 hrs. (x2)
Comprehensive Cognitive Assessment	Measures specific subject matter knowledge as gain (pre/post) and achievement (normed posttest). Students use results to inform educational plan. University uses to evaluate teaching and curriculum.	Registration Graduation	Yes	Knowledge, achievement	IRT developed and validated test items; internally normed	5,000/Year	3 hrs. (x2)
Integrated Professional Development Surveys	Key areas pertaining to university's mission and goals are measured in incoming and graduating students, and alumni through three separate instruments. Interviews supplement quantitative data.	Registration Graduation Alumni	No	Values, attitudes, beliefs about education	Scaled survey items; mission driven & empirically developed scales	9,000 (R) 5,000 (G) 1,000 (A) Yearly	15 min. 10 min. 10 min.
End-of-Course Surveys	Students evaluate curriculum, faculty, and services at the completion of each course. Measures pertain to central elements of adult teaching/learning model and university standards of performance.	Every 5-6 weeks	NA	Attitudes & facts concerning immediate learning experience	Scaled survey items; mission driven constructs; empirically validated scales	75,000/Year	5 min.
Faculty Course and Student Evaluations	Similar to student end-of-course. Faculty also evaluate student preparation for course as related to teaching/learning model.	Every 5-6 weeks	NA	Attitudes & facts re: curriculum & classroom	Scaled survey items; mission driven constructs	5,000/Year	5 min.
Student Comment Analysis System	100,000 handwritten student comments are captured to a computerized knowledge base and reported by course, faculty, text, etc.	Every 5-6 weeks	NA	Values, attitudes, facts, prescriptions	Open-ended, quest.; heuristic taxonomy	100,000 Comments/ Year	Var-iable
Research Project Capstone Assessment	Review panel comprised of faculty and external professionals review projects against university standards. Results are used for curriculum and faculty development.	Completion of project	NA	Competency-based skills and achievement	Criterion referenced rating system; interrater reliability system	200 Projects/ Year	1 hrs.
Employer Impact Assessment	80% of UOP students receive employer tuition reimbursement. Employers are interviewed and surveyed for judgments of program impact on skills development.	Yearly	Yes	Values, attitudes, observations about impact	Open-ended interviews & surveys; mission driven constructs	Under develop-ment	1-2 hrs.

determining whether students are professionally and academically prepared to benefit from their educational experiences. The faculty end-of-course survey, which takes about five minutes to complete, captures knowledge and routes it to appropriate academic staff. Similar to the student-end-of-course survey, the Likert-like scaled items address the University's mission. Five thousand surveys are completed annually. Information from the faculty end-of-course survey is analyzed daily and is reported to faculty, area chairs, and academic administrators.

Student Comment Analysis System (SCAS). The back side of the End-of-Course Survey asks students to provide specific comments--in their own words--about faculty, curriculum, university services, or any other educational matter of concern to them. Approximately 100,000 handwritten comments per year are received from students via this comment system. Both theory and our practical experiences suggest that these comments are a particularly valuable source of information for evaluating programs and services. Accordingly, the University has developed a knowledge-base system for classifying, storing, and retrieving these comments in report formats for use by faculty, curriculum developers, and university administration. The Student Comment Analysis System (SCAS) is unique to the University of Phoenix, and provides valuable short-term indicators of the educational process. Currently, 23 different reports are issued monthly to various University departments and faculty.

Grading Practices Analyses. Grade point averages (GPA's) awarded to students are studied across faculty, programs, and campuses. The bimonthly GPA reports list GPA and variances according to program, location, and faculty member. Faculty and administrators receive this information.

Registration Survey. This survey, completed during the registration process, asks UOP students what factors influenced them to choose UOP over alternative institutions, what major academic and professional goals they hope to achieve as they enroll in UOP, what learning/teaching methods are most effective in helping them to assimilate and retain knowledge, how they rate the overall effectiveness of the registration process, and what their employers' opinions are of UOP programs. This survey also secures important demographic and marketing information that will serve to reach potential students who would benefit from UOP programs. This instrument uses a 5-point Likert-type scale for a majority of the items. Approximately 9,000 surveys, which take about 15 minutes to complete, are administered yearly.

Graduation Survey. Asks graduating UOP students to give their perceptions of the quality of their UOP education by rating all aspects of the University's educational and support services, indicating the degree to which they met educational and professional goals, the degree of effectiveness of UOP learning/teaching methods in helping them to learn and retain knowledge, how UOP education compares in quality to traditional colleges and universities that they attended, what effect their research project had at their place of work,

and what their employers' opinions are of UOP programs. This survey also uses a 5-point Likert type scale and takes about 10 minutes to complete. Over 5,000 graduation surveys are administered annually.

Comments to the Chair. All UOP students, faculty, and staff are provided a convenient mechanism for writing directly to Dr. John Sperling, the University's Founder and Chairman. All comments are read by Dr. Sperling and actionable issues are forwarded to appropriate departments for further investigation.

Outcomes Assessment: Adult Learning Outcomes Assessment (ALOA)

The primary objectives of the ALOA project are (1) to provide University of Phoenix students with useful information about their educational achievement and needs, both as students and as working adults; and (2) to provide the University of Phoenix with a comprehensive picture of the impact of its educational programs on the personal and professional lives of its students.

Comprehensive Cognitive Assessment. This inclusive entrance and graduation assessment, which takes approximately three hours to complete, provides students with a personal profile of their knowledge, judgment, and problem-solving skills related to the learning objectives of the core curriculum for their degree program. Students receive a detailed report of their results from which they can gain valuable information about their educational strengths and areas in need of improvement. The comprehensive assessment for each degree program contains items developed under a item response theoretic (IRT) model. Items are developed, validated, and internally normed (Tucker, 1989). Over 5,000 thousand comprehensive assessments are administered yearly across all degree programs.

Affective (Professional Values) Assessment. The assessment of affective growth is concerned primarily with the value one places on newly acquired professional knowledge and skills. Decades of study of successful professionals show that they place a high value on certain attitudes and skills. Among these are: (1) commitment to teamwork and cooperation; (2) effective oral and written communications; (3) self-confidence and a sense of competence; and (4) critical thinking and evaluation skills. Learning objectives in these affective areas are integral to the University's curriculum. This comprehensive value assessment takes one hour to complete and contains empirically validated scaled, ranked, and open-ended items. Approximately, five thousand assessments are distributed yearly.

Alumni Impact. Alumni are surveyed to obtain a long term view of the impact of their University of Phoenix education now that they have had sufficient time to integrate their learning with the demands of their current career and personal responsibilities. Using empirically validated scales driven by the University's mission, the alumni survey inquires of UOP alumni as to what factors influenced them to attend UOP, what major personal and professional goals they have achieved as a result of their UOP educational experience, how

effective the UOP teaching/learning model was in helping them achieve their educational goals, the impact of their research project in their organization or profession, and their employers' opinions of UOP programs since their graduation. Again a 5-point Likert like scale is used for the majority of the items. This survey takes about 10 minutes to complete.

Faculty Impact. The University's requirement that faculty be successfully employed practicing the subject they teach, provides a unique opportunity for practicing professionals to independently assess students' achievement. In addition, faculty are surveyed to determine the impact of teaching on their professional growth and development.

Employer Impact. The unique mission of the University of Phoenix to serve working adults demands that assessment be carried to the work place. Employers are surveyed to obtain an impartial, long term view of the impact of the University's educational services on their employees, both as citizens and as professionals working to serve their organization's mission. This instrument contains scaled, ranked, and open-ended survey items. In-person interviews provide qualitative supplement to the information obtained in larger scale from the surveys.

Research Project Assessment. The capstone nature of the student research project makes it an ideal source of information about students' ability to critically appraise and solve applied problems of direct relevance to their professional objectives. Review panels evaluate students' projects for their mastery of individual subject areas as well as evidence that they integrate the many skills required to carry out an applied research study. Two hundred projects are randomly selected for review each year using criterion referenced rating and iter-rater reliability systems.

Utilization of Assessment Information

Central to the long term success of the University's Academic Quality Management System (AQMS) and the Adult Learning Outcomes Assessment (ALOA) project will be the commitment of the University's faculty and staff to utilize the information gathered for the improvement of all aspects of the University's operation. This perspective is in line with three-fourths of all college administrators who believe that assessment should be linked to institutional improvement (El-Khawas, 1986). K. Patricia Cross (1986) argues that assessment should be tied directly to the improvement of what goes on in the classroom.

> (Assessment) information collected should be related to the type of decisions that it is possible to make. Since decisions about instructors are made by teachers, assessment should include information that is helpful in the classroom.

Clearly, it is the responsibility of an institution to establish its own measures of assessment, particularly when the institution has an educational mission which differs from

traditional colleges and universities upon which most assessment theory and practice is based. Literature on the differential effects among colleges indicates that most colleges have relatively unique mission statements (Elfner, et al., 1985).

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